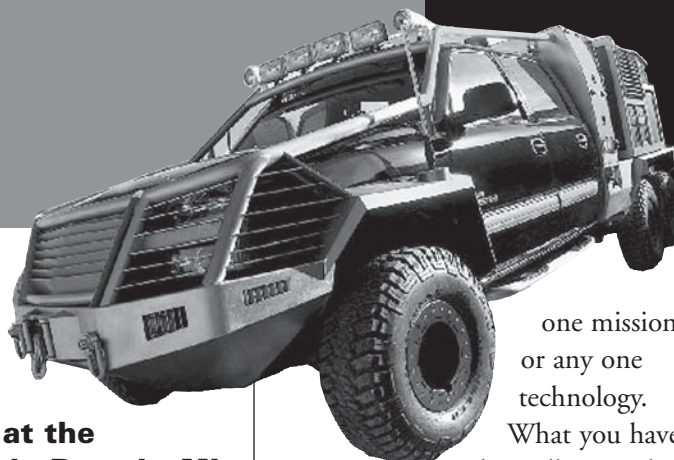


SmarTruck II: A Versatile Vehicle

Paul D. Mehney



"A multipurpose vehicle for multipurpose missions," was how one National Automotive Center (NAC) engineer described the function of NAC's latest prototype vehicle — SmarTruck II. Unveiled at the North American International Auto Show in Detroit, MI, the SmarTruck II has been a hot topic of conversation within defense and homeland security offices ever since. Sporting truly revolutionary technology, SmarTruck II has the ability to adapt to diverse missions by using a variety of plug-in computer modules.

Two years in the making, SmarTruck II is the result of input gathered from a variety of military, law enforcement and government entities. This information was then merged into a multipurpose prototype vehicle built on a modified commercial Chevrolet Silverado platform by the U.S. Army's Tank-automotive Research, Development and Engineering Center (TARDEC) NAC, Integrated Concepts and Research Corp. of Alexandria, VA, and Applied Minds Inc., of Glendale, CA.

Unveiled at the North American International Auto Show in Detroit, MI, SmarTruck II is NAC's latest homeland security/counterterrorism vehicle.



Sporting 6 x 6 all-wheel-drive capability and an increased payload capacity, SmarTruck II negotiated every terrain challenge thrown at it during homeland security, military and counterterrorism trials. In

part, the truck features a rugged all metal stainless steel front grill guard, run flat tires, flood lights, adjustable blackout lights and the ability to launch and control an electric Pointer unmanned aerial vehicle that has real-time video transmission capabilities. Most important, the SmarTruck II possesses a first-of-its-kind, rapidly reconfigurable modular system design.

According to SmarTruck II designer Bran Ferren, of Applied Minds Inc., "With this truck, you're not confined to any

one mission, or any one technology.

What you have, basically, is a platform that can take from one to six modules, or any combination that fits the form factor and payload capacity. It's the modules that provide the flexibility," Ferren explained.

SmarTruck II is capable of accepting from one to six specialized modules that perform a variety of specific functions. Once they are plugged into the truck, a high-tech onboard computer Vehicle Operating System recognizes the module and will automatically configure the truck's command and control capabilities. "You can reconfigure the truck however you want and be up and running in minutes," Ferren commented.

With the module system, the SmarTruck II will excel in a variety of roles. NAC Director Dennis J. Wend stated, "Beyond military capabilities, SmarTruck II can be configured for homeland security, community service and humanitarian aid applications such as disaster relief, medical response, surveillance, field kitchen, water purification, water pump and as a command and control center."

Ferren agreed, "Whatever the mission, the idea is that you can outfit a fleet of standard, all-purpose chassis with whatever modules you need.

In the wheeled vehicle department, it's a genuine breakthrough. The point is reconfigurability. That's what provides flexibility and that's what has never been done before."

On display with the truck are four of its most innovative module systems, the Base Power Module, Electro-Optics Module, Weapons Module Pad and Integrated Communications Module. According to SmarTruck II Program Manager Germaine Fuller, "The Base Power Module is the brain of the vehicle. Currently, SmarTruck II uses shore power to prevent depleting the vehicle's power for auxiliary units. The Base Power Module manages that power and acts as a control and switching center for AC/DC capabilities." The Electro-Optics Module has a 30-foot vertical lift that hosts a high-powered surveillance camera that is capable of viewing objects 20 miles away. Other military applications for this module could include battlefield radar hosting and electronic warfare packages.

The most impressive module, the Weapons Module Pad, boasts an

impressive Spike fire-and-forget missile system and its two supporting self-feeding magazines. Developed by the U.S. Navy specifically for the SmarTruck II platform, Spike is a low-cost, shoulder-launched, man-packable system that houses 16 missiles and can fire 2 missiles simultaneously at independent targets. When not in use, the Spike retracts into the module for storage.

Lastly, the communications module ensures that vehicle crew can securely communicate with various military and intelligence sources. This module also integrates 3D mapping capability, vehicle-mounted thermal imaging and in-vehicle surveillance radar that is capable of detecting moving objects within 7 kilometers of the vehicle. Additionally, the Integrated Communications Module houses the truck's cutting-edge light-emitting diode (LED) messaging system. "This is the first time such a system has been used on this type of vehicle platform," explained Fuller. "Through using infrared spectrum communication housed in the

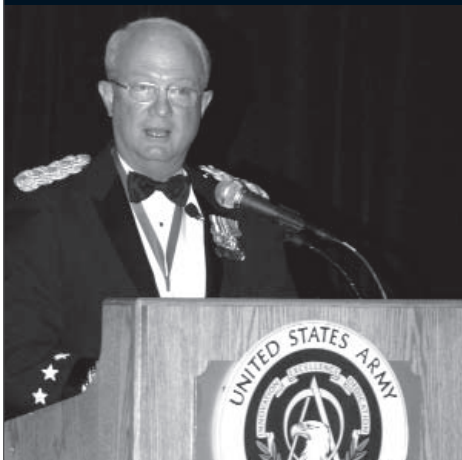
truck's tail lights, the LED system enables SmarTruck to communicate with other vehicles in a convoy. Trailing vehicles' computers are then able to read the information and decipher things such as the lead truck's speed, direction and braking distance between the vehicles."

As technologically advanced as the SmarTruck II is, the most important aspect of this truck is its role. As summed up by designer Ferren, "The message here is really about saving lives. The truck's purpose is to meet the requirements of a new, emerging challenge — how to most effectively protect our cities and people. We designed SmarTruck II for this role — to help people and to save lives."

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Army Acquisition Corps: 'Your Soldiers' on Point for the Betterment of the Army

LTG John S. Caldwell Jr.



The following is excerpted from LTG John S. Caldwell Jr.'s keynote address at the 2003 Army Acquisition Corps Ball, Oct. 5, 2003, Arlington, VA.

Photos by SPC Adam R. Mancini, Army Visual Information Division

Congressman and Mrs. Schulze, Michael and Barbara Wynne, Secretary and Mrs. Bolton, Gil Decker, Page and Barbara Hoeper, Dr. and Mrs. Ken Oscar, General and Mrs. Paul Kern, Judy — distinguished guests all. Good evening and welcome to the Army Acquisition Corps (AAC) Ball.